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June 23, 2000

Reference No. 15670

Mr. Kevin Adler
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Dear Mr. Adler:

Re: Waukegan Manufactured Gas and Coke Plant Site

On behalf of the Waukegan Manufactured Gas and Coke Plant (WCP) Site Group we are writing to advise you of the anticipated schedule to complete the Pilot Study and to identify some relatively minor changes to and potential issues with the Work Plan.

Schedule

An implementation schedule is presented in attachment A. We have added an optional pump test under Unit Operations. This task is under consideration as a result of preliminary evaluation of the Tracer Study as described under separate heading below. We are trying to achieve a July 17, 2000 field start to ensure completion before winter weather conditions set in. This schedule results in a short review time for USEPA.

Work Plan

CPT/GC

A fully functioning cone penetrometer with attached gas chromatograph has not been located. This combination of technologies is not routinely available. Some vendors have offered to jury rig a CPT/GC but as this would involve an expensive mobilization and method development with uncertain outcome CRA has elected to proceed with cone penetrometry and continuous monitoring of UV fluorescence and conductivity.

TREATABILITY STUDY

ANDCO is unable to provide an electro-chemical precipitation unit and therefore CRA will proceed with chemical removal of arsenic as the pretreatment step.

We are also proposing that the two stage biological test be dropped in favour of testing with a single biological reactor applied to both pretreated (arsenic removal) and raw groundwater.

US EPA RECORDS CENTER REGION 5

ISO 9001



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Monitoring Wells

CRA is proposing to use 0.5 inch PVC piezometers bundled and installed in a single hollow stem auger borehole instead of the direct push monitoring wells identified in the Final Work Plan. A preassembled cluster of five piezometers set at the correct depth will be installed in a hollow stem auger boring drilled with a knock out cap in the lead auger. The bottom one-foot of each piezometer will be perforated and wrapped with geotextile fabric. Each piezometer will be capped and labeled above the ground surface. It is expected that the annular space will fill naturally as the augers are withdrawn. Any annular space that remains after the augers are withdrawn will be filled with bentonite.

TRACER STUDY

Preliminary evaluation of the Tracer Study using particle tracking modeling indicates that there may not be sufficient capture during the E/R test for the Tracer Study to produce useful results. Further investigation reveals inconsistency in the hydraulic conductivity data. Hydraulic conductivity calculated from the incomplete pumping test is 47 ft/day while the geometric mean of the slug test data is 4.7 ft/day, an order of magnitude difference. A further concern is that the pumping test result is higher than the slug test result, typically the slug test provides higher estimates of hydraulic conductivity. The order of magnitude difference could mean the difference between success and failure of the Tracer Study and therefore more confidence in the hydraulic conductivity is required. We are continuing to evaluate this issue but it is probable that a modification to the Tracer Study will be required.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Alan W. Van Norman, P.Eng.

AVN/pw/2

Encl.

c.c.:

Jim Campbell
Roger Crawford
Mike Rehor
Steve Matuszak
Chris Szela
Jerry Wilman
Phil Smith
Steve Wanner

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	Plans	39 days	Mon 5/22/00	Fri 7/14/00	4/30 3// 3/14 3/21 3	1 0/4 0/11 0/18 0/2	25 112 119 11	0//23///30	0 0/0 0/13 8	20 0/2/ 9/	3 9/10 9/17 9/	124 10/1 10	10 0/1 0/2	0/2 11/5 1/	1 1/1 1/2	. 1213 211 211	212 213	11 114 1121	1120 214 2111 211
1.1	SAP	28 days	Mon 5/22/00	Wed 6/28/00			L												
1.2	HASP	24 days	Fri 5/26/00	Wed 6/28/00		und													
1.3	QAPP	24 days	Fri 5/26/00	Wed 6/28/00															
1.4	Site Management Plan	17 days	Tue 6/6/00	Wed 6/28/00															- Annual Control of the Control of t
1.5	Treatability Protocols	17 days	Tue 6/6/00	Wed 6/28/00															
1.6	EPA Review and Approval	11 days	Thu 6/29/00	Fri 7/14/00															
2	Procurement/Mobilization	19 days	Mon 6/19/00	Fri 7/14/00													#		
2.1	Procurement	18 days	Mon 6/19/00	Thu 7/13/00															
2.2	Mobilization	1 day	Fri 7/14/00	Fri 7/14/00			+												
3	Installation of Pilot Units	20 days	Mon 7/17/00	Fri 8/11/00					-										
3.1	Study Area Characterization	7 days	Mon 7/17/00	Tue 7/25/00			7	-h									***************************************		
3.2	Extraction Well	3 days	Wed 7/26/00	Fri 7/28/00															
3.3	Extraction Wells/Reinjection Wells	10 days	Mon 7/31/00	Fri 8/11/00				+	_h										
4	Unit Operations	40 days	Mon 8/14/00	Fri 10/6/00							-	-							
4.1	Extraction Well	40 days	Mon 8/14/00	Fri 10/6/00					+										
4.2	Extraction Wells/Reinjection Wells	20 days	Mon 8/14/00	Fri 9/8/00					-		Ъ								
4.3	Optional Pump Test	5 days	Mon 9/11/00	Fri 9/15/00															
5	Treatability Study	45 days	Mon 9/11/00	Fri 11/10/00							-								
5.1	Arsenic Pretreatment	15 days	Mon 9/11/00	Fri 9/29/00							+	1							
5.2	Biological Treatment	30 days	Mon 10/2/00	Fri 11/10/00										Ъ					
6	Data Analysis	20 days	Mon 11/13/00	Fri 12/8/00										•	CONTRACTOR OF THE PARTY OF				
6.1	Hydrogeological Data	20 days	Mon 11/13/00	Fri 12/8/00		1111								*		Ъ	**************************************		
6.2	Treatment Assessment Data	20 days	Mon 11/13/00	Fri 12/8/00										7					
7	Pilot Report	20 days	Mon 12/11/00	Fri 1/5/01												-	-		1 . 28
7.1	Draft Report	15 days	Mon 12/11/00	Fri 12/29/00												+			
7.2	Final Report	5 days	Mon 1/1/01	Fri 1/5/01													+		
8	Progress Reports	170 days	Wed 6/14/00	Wed 2/7/01		● ●		•	•		•	•	•	• •		•	•	•	•

Project: Schedule Date: Wed 6/21/00

Regular Task

Milestone 🛨

CRA 15670 Schedule.mpp

figure 1 DRAFT PILOT PROJECT SCHEDULE WAUKEGAN COKE PLANT, Waukegan, Michigan